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Spinoff

New X-Ray Technology—

NASA Teams With the National Institutes of Health

NASA and the National Institutes of Health signed an agreement in November of 96 (effective through September of 1999) to facilitate the development of new X-Ray technology, which has the potential to improve scientific research and enhance quality of life through better medical imaging instruments. The collaborative research agreement takes new X-Ray technology recently developed by Marshall Space Flight Center (MSFC), X-Ray Optical Systems, Inc. of Albany, New York, and the Center of X-Ray Optics of the State University of New York—Albany and enhances its imaging capabilities for a variety of commercial uses.

The NASA-developed X-Ray technology is capable of generating beams that are more than 100 times the intensity of conventional X-Rays. At the heart of the technology is a new type of optics for X-Rays called Capillary Optics. The X-Rays can be controlled by reflecting them through tens of thousands of tiny curved channels or capillaries, similar to the way light is directed through fiber optics. The high-intensity beams will permit scientific and medical research to be peformed in less time with higher accuracy and could permit the use of smaller, lower-cost, and safer X-Ray sources.

Expected applications of this new technology includ improved medical imaging, such as in mammography, and improved forensics. Used in research, the new technology could lead to the development of new disease-fighting drugs.

"Once developed, the X-Ray device will enhance a researcher's ability to determine difficult protein structures at a faster pace, which is critical to new drug design," said Dan Carter of Marshall's Laboratory for Structural Biology.

Joel Kearns, program manager of NASA's Microgravity Research Program stated that this new technology can be applied to research on the Space Shuttle and the International Space Station. NASA's contribution to the agreement is sponsored by Kearn's program conducted at MSFC and by Applications at NASA Headquarters.

Excerpted from NASA press release 96-241, written by Steve Roy, MSFC.